THE ROLE OF HIGHER EDUCATION IN TODAY'S NAVY

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In June of 1972 I was privileged to commence my tenure as President of the Navy's highest educational insitution, the United States Naval War College in Newport, Rhode Island. I brought with me to Newport a group of men and ideas that, I think, you will not fail to recognize were influenced by the Oxford of our pasts. It seems not inappropriate to me that Cecil Rhodes and Oxford should leave their mark on modern military men.

We have all wondered where Rhodes' Victorian idealism was leading him when he conceived of the Scholarship in his will. Did he expect that the scholars bearing his name would become presidents and prime ministers, or rough and ready moilers for gold and diamond dust like himself? Was a vision of individual "greatness", for himself and his beneficiaries, or did he envision developing some sort of collective elite? If so, the common ground of Rhodes' sort of elite was not to be power, wealth, learning or ingenuity, but a more hallowed principle of selfless esteem and concern for the entire community of man.

The Grail defining "greatness" in the individuals of this elite was not to take, but to give; not to hold, but to surrender; not to fear, but to relish the perils of sacrifice, of ceaseless endeavor, of the will committed beyond its own small causes of assertion and self-preservation. These virtues are the same as those that ought to belong to the fighting men of any age.

When first I came to the Naval War College I desired to know the quality of that argument stirring in men a fitting greatness, that argument tempting them to put character before their careers. As Oxford tried to teach us to look beyond the shrinking boundaries of right and wrong answers, so my staff and I hoped to raise questions in the minds of our students which could never be resolved by the neat formulae for a shore bombardment or a submarine search pattern. As Oxford thrust upon us roles as philosophers and historians for which we may have been ill-prepared, so we hoped to encourage new diminsions of thought upon our students. In order to deal effectively with the protean conditions of war and peace, an officer must possess a 'negative capability' whereby he can abandon his prejudices at will and look upon the problems confronting him with an eye forever new.

We work at Newport with hand-picked officers at mid-career, largely Lieutenant Commanders and Commanders, most of whom come to us with training and experience which makes them amenable to a rational, Newtonian interpretation of events. This is understandable, since an officer's experience is in an authoritarian chain of command where the obligations of responsibility and authority are to make decisions quickly and correctly. Once these decisions are made, he is held accountable for the 'rightness' or 'wrong-ness' of the results. There is no earnest plea: "Our deeds are ours; their ends none of our own." Moreover, an officer lives in a technical environment, one demanding particular skills which can be performed only one way: the right way.

Of course, because this is necessary does not make it evil. The Navy is a very technical service. But as officers become more senior, they must be able to deal increasingly with situations involving broad national strategy and management of vast resources and tactical decisions amidst rapidly changing technology that are not simple and direct, neither are they susceptible to precise right or wrong answers. I see it as the role of a War College to take professionally competent officers, men who have already specialized and achieved, and encourage them to recognize the breadth, the

subtleties, the uncertainties and the inexactness of many decisions they will be obliged to make as senior naval officers.

In some sense this is the reverse of normal graduate education. Most candidates for the MA or PhD, have not proven themselves in any practical way; and their focus is being narrowed to some specialized sub-set of their academic expertise.

We are implementing this idea at the Naval War College through a new curriculum, which has considerable kinship to the kind of program we experienced at Oxford. This is best illustrated by how we attack the question of broad national strategy, the issue of what the Navy can contribute in the post-containment era, or the multi-polar world, or whatever one calls the new international arrangements emerging today.

Our approach to the problems of strategy is historical, avoiding contemporary issues to which many students are emotionally committed, in the belief that it is better to start with ignorance than with prejudice, indeed, that in education humility and detachment bring the best results. For example, our students began the year by reading

Thucydides' History of the Peloponnesian Wars. Many of the students wondered, "How can this be relevant to what I am doing in the last part of the twentieth century?"

The wars between Athens and Sparta were wars between a sea power and a land power, wars in which the sea power, Athens, decided to send an expedition to far-away Sicily. The expeditionary force became overextended; it became bogged down. With their young men away and dying and no sudden sweeping victory in sight, the people of Athens grew disillusioned. They felt defeated by their own gods and values. A civilization soured. The consequences were severe.

The analogies are obvious. So we had our officers look at the factors influencing the decisions of the Athenians and of the Spartans. Hopefully by so doing they realized that the issues of whether to send a campaign overseas or not, whether to follow a maritime strategy or a land strategy, are issues that men have grappled with for centuries. They are issues that are not easily resolved, although many of the fundamental considerations have not changed.

Next we looked at other historical case studies in Strategy and policy. We use the French Revolutionary and Napoleonic Wars to illustrate the importance of such factors

as charismatic leadership, nationalism, and ideology in mobilizing popular support for total war. After reading Clauseqitz our students not only study how Bismarck sought to use limited war as an instrument of national policy, but they also examine the complex origins of the First World War to see how accidental war can result from a general international collapse of policy. To warn our officers against the dangers of facile historical analogies - the so-called lessons of history - we look at how far the Anglo-French appeasement policies of the late 1930's were an effort to avoid World War I, while the American Containment Policy of the late 1940's can be seen as an effort to avoid World War II. And in all of our historical case studies we focus on the central problem of the relationship between the professional military officer, his government, and his society.

History is unlikely to repeat itself, but today's officers must be able to cope with the concepts intwining historical patterns. They must understand what it means to be moving into a 'multipolar' world and where in this arabesque of events the United States appears.

Of course, there are no precise, easy answers. Therefore, what we are trying to do in higher naval education today is to help our mid-career officer students emerge into the approximate world of the social sciences from the precise world of the technical sciences. We want to do this by giving them an adventure in intense thinking, in reasoning and logic and familiarity with the historical perspective.

Hence, as you might expect, we have turned to the Oxford model of pedogogy. The stress is on individual effort--abundance of reading, writing essays and a weekly approximation of the tutorial. In the Strategy curriculum the student reads about one thousand pages of military history a week. He attends two lectures. Every third week he prepares an essay for his seminar, the thesis of which he must defend before both a dozen of his peers and his professor in a seminar session. Additionally, the weekly visiting lecturer acts as a tutor by meeting with small groups of students continuously during a three-day stay on campus.

Having to do their own digging among the historical case studies makes particular sense for men who will be obliged to dig out for themselves those verities applicable to the military decisions they will be confronting in 1974 or 1978.

The concepts, the process of thinking and reasoning around corners, will be indefinitely useful to them, more so than the usual military reflex for currency and facts which are so perishable.

Strategy is not all that we teach. Naval officers today, perhaps more than ever before, are managers. They are faced continually with difficult decisions because the Navy never has and never will have as much money as it thinks necessary. They are faced with issues like: If you had a billion dollars in the Navy budget for escort type ships, would you spend it on four nuclear-powered guided missile frigates or on twenty destroyer escorts? Of course, almost anyone would prefer the nuclear frigates, and there are some situations where we cannot do with less. Nothing less could survive. There are other situations, however, where four or five of those frigates would simply not fill the ten or twenty places where they are needed. Some compromise is necessary--

perhaps a combination of two frigates and ten destroyer escorts, or one frigate and fifteen escorts. On which of these combinations do we settle? It is difficult. Again, though, the question does not lend itself to the precise problem-solving of the well-trained technician.

To what purpose a frigate? To what purpose an escort? As in strategy, these imprecise questions must be answered by looking ahead to the broad ends we are trying to achieve and by making a judgement as to what those ends should be. That is to say, a utility function must be defined, set before the experts, and cogently defended before the public. In the end, we hope that our students appreciate the absolutely integral, though imprecise, step of setting the objectives.

From questions like these the students venture into the more precise managerial techniques of analysis and systems analysis. They discover the resulting blend of calculation and judgment that must be behind any significant management decision. Again, then, we are attempting to drive home the lesson that the students must combine the techniques of the physical sciences, with which they are comfortable and familiar, with the inexactness and approximation of the social sciences.

Finally, we teach Tactics. In Management we looked at how to purchase and manage a Navy to fulfill our strategy; in Tactics we study how to operate the Navy we have procured, so as best to carry out the strategy. Here, the methodology of the scientific approach is very much with us. After all, in any tactical interaction, there are mathematical estimations that can be made. A radar has a certain range, a certain probability of detection and certain errors that the operator can anticipate. Theoretically, you can work out almost exactly what to expect under a given circumstance.

There is a hitch of course. Sometimes we do not really know what numbers to put into these mathematical equations. We do not know what the weather is going to be like tomorrow afternoon, or how great an effect bad weather will have on the radar. We cannot be sure that the radarman will be especially attentive tomorrow morning. Perhaps he is not getting enough sleep, or he lacks motivation because he does not recognize the importance of what he is doing. Officers must be willing and able to make their own estimates of these uncertainties and find for them a place in the exact calculation of characteristics, frequencies, ranges and other details of the radar.

So the Tactics part of our course is systematic, beginning in precision and ending in speculation, mere but not

unimportant probabilities. There is a probability that under circumstance A you will do well and under circumstance B you will do poorly. The tactical commander, must make the calculations, using intuition, conjectures or whatever to complete the equation. Somehow he must decide how he is going to play his forces in any given situation. War turns a deaf ear to the plea of ignorance.

This process of developing leaders who can deal with the uncertainties of Strategy, with the combination of precise analysis and judgment in Management, and with the probabilities of Tactics means several things to today's Navy. One is that there will be more emphasis on mid-career War College education. There has been, of course, a marked increase in mid-career executive development programs since World War II. The Harvard Business School was one of the first to move into this field in 1943. Today over fifty universities conduct full-time executive development programs. A number of large corporations such as General Electric and Motorola have their own in-house programs. So does the American Management Association, the International Marketing Institute and the International Bank for Reconstruction and Development. Our program in the Navy, though, is placing emphasis in two particular directions.

First, we are setting truly demanding academic standards and insisting that the student-officer measure up.

By requiring written reports and examinations from our students, we are breaking away from the comfortable tradition that business and military executives, at age forty or thereabouts, are above this sort of thing and should not be subjected to the rigors of the Socratic method, or the embarrassment of public competition. Indeed, the stakes are too high in this profession to follow in that 'gentlemanly' tradition any longer.

There are certain risks to this new approach. Mid-career student-officers tend to be fiercely competitive. Too much emphasis on measuring their performance can misdirect their efforts from learning to winning. There is also, quite frankly, a risk of breaking the spirit of those who cannot make the grade. After all, these men have proved themselves considerably, as commanders of ships, as pilots in combat, as prisoners under torture and as managers of multi-million dollar endeavors. In civilian life one might take the view that this is simply the selective, if not purifying, force of Darwinian logic at work. In our walk of life we must be careful not to dismiss a man of exceptional leader-

ship and fighting qualities even if he is not endowed with a transcendent mental superiority.

Our second point of emphasis is to reshape the habits of thinking of our student-officers, and this is no easy task in a man at age 41--the average age in our senior course--or even at age 33--the average age in our junior program. We are currently debating whether our emphasis should be placed on the younger or older group. It may be more difficult to shake the timbers of dogmatism in men over 40, but if we concentrate on the more malleable men in their 30's, we are in danger of failing to select the right ones, namely, those who will rise by their 40's and 50's to positions truly requiring this enlarged mental outlook.

Overshadowing all these risks is the danger that some men might simply lose their bearings in a new world of uncertainty and exactness. We might rob them of their old confidence that right answers do exist without developing in them a competence to cope with uncertainty.

Why, then, are we accepting such risks in demanding high academic performance and in attempting to restructure thought processes? In part because we are proud to have been in this mid-career education business at Newport since 1884, sixty years before it began to catch fire in the business world. We are willing to experiment and discover whether new approaches

and emphases are appropriate to our changing times. Whether these may also be appropriate to the business world, I am not qualified to judge. I am persuaded, however, that in the military of the 1970's and 1980's there will be demands for higher intellectual standards and for greater competitiveness. The gentlemanly fraternal spirit is waning. Why?

First, because we in uniform are under closer scrutiny today than perhaps ever before, we must be able to present our case in a more convincing manner to a more sophisticated audience. If we do not or cannot present our case well, unthinking and uninformed criticism could parade unchallenged and lead our country into a repetition of its rejection of military preparedness reminiscent of the 1920's and 1930's. Lack of preparedness today would have more serious consequences than it did then. We cannot yet envision a world wherein men hold values transcending life and death which will be able to do without the final arbitrament of arms.

Moreover, it seems to me that the peacetime balance of military forces has greater impact on world events than in days past. Modern weapons present an image of swiftness. Other nations look to what we can do for them today, rather than what we can do after a long period of mobilization.

Although it increases the burden on us, we in military uniform should be pleased with the growing attention and criticism we are receiving from others. It is forcing us into the hard thinking necessary if we are to answer our critics in comprehensible terms. It is forcing us not to ask for two ships or two planes or two tanks when one might suffice, lest in a loss of credibility we get none. I welcome this public interest in and awareness of our military purposes and requirements. The military in a democracy must be able to present the leaders and the citizens with a knowledge of what violence, and possibly non-violence, can produce. This is one of the factors obliging us to develop officers who are articulate rational thinkers, men who will think through our broad military purposes clearly rather than rely on cliches; who will prepare to deter the next war rather than the last; and will ask only for the hardware we need, not whatever technology can produce.

In years past ambitious young men have crossed the Atlantic, their heads crowded with ideas and visions running rampant across a field of blue. In the delightful dreariness of Oxford those undergraduate theories were challenged, those reckless brains disciplined, that cocksureness shaken and put into harness. At the same time those young men were changed by the discovery of other men's ideas, other men's visions, other men's greatness. The quest for certainty, a definitive

end of knowledge, was over; they had learned to question relentlessly the bland acceptance of any answer which posed as precise or immutable.

So men come to the Naval War College, many of whom have been deprived of broader visions and healthy skepticisms because of the technical and demanding nature of their work and the conservative mold of their profession. Traditionally, these men have been an elite because they have been willing to give more than they take. They are not supposed to dream, but to let others dream through them. Here at Newport we hope that they might learn the quality of those dreams in order to achieve new vistas and expanded horizons for themselves as well as for their Service. These are the men who must challenge Mahan's dictum: that a military cannot reform itself from within.

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HIGHER EDUCATION IN THE UNITED STATES NAVY

Over the past three years much has been written about "The New Navy". Admiral Zumwalt, the Chief of Naval Operations has gained wide publicity (not all favorable) on the modernizing changes he has wrought against the inertia of tradition. Many such radical perturbations on a bureaucratic society would tend to die out over time as the reins of leadership pass on to another. Admiral Zumwalt felt that, since the Navy could ill afford regression to the status quo ante, he must imbue those soon to enter the decision making arena with capabilities to continue such forward thinking policies and ideas. He sent Vice Admiral Stansfield Turner the Navy's senior Rhodes Scholar, as the youngest flag officer ever to preside over her Haval War College at Newport, Rhode Island. In this position he directs the education of the select of the Navy's senior and middle-grade officer corps in the image of the new Navy.

The student body at Newport consists of hand-picked officers at mid-career, largely Lieutenant Commanders and Commanders with those of similar grades from other services. Most of them come with a background of education, experience and training

which inculcates in them a view of a rational, Newtonian universe, one in which there must exist precise, right or wrong answers for almost every situation. This is in part because an officer's vocational experience is spent entirely within an authoritarian chain of command. The obligations of responsibility and authority have always demanded his making decisions quickly and correctly. He, furthermore has matured in a technical environment, one which demands particular skills which must be performed in only one the correct way.

Now there is nothing wrong with this. The U.S. Navy is technical service, but as her officers move up the rank ladder, they must be able to deal increasingly with situations in such areas as strategy and personnel management where a simple and direct response may not be correct, problems which are not susceptible to precise right or wrong answers. The Naval War College must educate people to deal with such non-Newtonian issues; to get officers to recognize the subtleties, the uncertainties and the inexactness of the decision process as required of a senior naval officer in all responsible positions.

The Naval War College approaches this problem through a new curriculum instituted at the start this academic year.

It strives to tackle directly the question of broad national strategy, the issue of what the Navy can contribute in the post-containment era in a multi-polar world, and explore the nation's role in the international arrangements that are emerging today.

Strategy is studied through the device of military history; students are required to dissect the decisions of strategists of the past. For instance, this year commenced with the reading of Thucydides' History of the Peloponnesian Wars, wars which occured nearly twenty-five hundred years ago. Many of the students asked, "How in the world can this be relevant to what I am doing in the latter part of the twentieth century?"

The series of wars between Athens and Sparta were wars between a predominant sea power and a predominant land power; they were wars in which the sea power, Athens, decided to send an expedition as far away as Sicily. This expeditionary force became overextended and bogged down. The people of Athens refused to continue support of an ambiguous war far from home against a foe which did not threaten the homeland.

There are so many analogies which could be drawn. The officers were asked to look at the factors that influenced

the decisions of both Athenians and Spartans. This made them realize that the issues of whether to send a campaign overseas and whether to follow a maritime strategy or a land strategy, are issues that people have grappled with for many years. The fundamental considerations have not changed all that much over these years and the problems have never been suitably resolved.

We study strategy through history because historians are accustomed to dealing with change. Other social sciences deal take the Markov approach, dealing only with the state of the art, not with how it came to be there. Strategists must always be prepared for and even anticipate changes and not wedded to the status quo. Rather they must understand the basic rules, laws, principles, and precedents which apply then relate these to directing change as it must be made.

Following Thucydides, the students looked at other cases from history: the Napoleonic Wars; our Civil War; the Spanish-American War; and on through World War II. It's not a cliche approach; that history is necessarily going to repeat itself. Today's officers must be able to cope with the principles behind history, and be able to answer questions like, "Has the United States been driven by imperialism since 1898?" "What does it

mean to be moving into a 'multi-polar' world?" and "Where in this kind of complex situation does the United States fit?"

In truth, there are no precise, universally acceptable answers to questions like these. Therefore, the Naval War College today is helping mid-career officers emerge into a world including the social sciences from their precise world of a technical navy. This is done by giving them comprehensive and intense experience in logical thinking and reasoning along with familiarity with the historical perspective.

The thinking process is emphasized, not the absorption of facts. It is reinforced primarily by making the student think problems out for himself. For instance, students are only required to be on the campus five hours a week during the strategy course, and to attend two lectures and a single three-hour seminar. The rest of the time isn't exactly leisure; they read a thousand pages of military history each week. They also are required to write an essay every third week and an examination every fourth. It's not all input and output, they are also given enough latitude to explore the many facets of these complex problems and to explore many of the various issues that affected the decisions of past military leaders. The students are forced to do their own digging in their historical case

studies. In their future career assignments they are going to have to dig out for themselves the lessons which are applicable to the particular cases in military decisions that they will be dealing with in 1974 or 1978 or whenever it may be. The facts that are germane to our strategy today are not likely to remain so, however the process of thinking and reasoning will remain relevant.

Strategy is not the only subject in the Naval War College curriculum. Naval officers today, perhaps more than ever before, must manage vast resources. They are continuously faced with difficult decisions, because the services never have and never will have as much money as they feel required adequately to defend the United States. They are faced with issues like: "If you had a billion dollars in the Navy budget, would you prefer four nuclear-powered guided missile frigates or twenty destroyer escorts?" In most instances the majority would prefer nuclear frigates, and there are some situations where the mission absolutely can not be fulfilled with less. Nothing less would survive. There are other situations, however, where a few of even the finest and most capable frigates just would not be sufficient to go around. Obviously the Navy needs a combination, perhaps a mix of two frigates and ten destroyer

escorts, or one frigate and fifteen escorts. How is that mix selected? Everyone has his own exactly correct answer. Here, again, it is not as precise as technical questions such as, "How do you put a missile together?" or "How do you perform casualty control in the engineering plant of a destroyer?"

The Naval War College is teaching the students to approach these complex problems by first asking, "What is the objective?", "Why do you want a frigate; why do you want a destroyer escort?" These are very imprecise questions; they are answered much as those in strategy, by looking at the broad goals of the Navy and by then making a judgment as to what the objective must be. The students are made to appreciate that setting objectives is the most important, if not the simplest step that they must take.

They then go on to the controversial field of managerial analysis with an overview of systems analysis as seen by the manager. Having established an objective, the officer student must use tests, or analytic techniques, to help make choices between the escorts and the frigates or among whatever alternatives may be presented. However, the students are cautioned that, in the long run, having done the very best analysis and made the very best decision, if they can't get the Congress to buy

it, they haven't accomplished a thing. Of course, if they can't get industry to build it at something like the cost estimated, again it's all for naught. How then does an officer get a decision executed? It is again, a very imprecise process. It is a matter of judgment; a matter of his measure of public opinion, his feeling for the state-of-industry and their attitudes; and his impression of the opinions and rigidities within the nearer bureaucracy.

So here again, in the management field, what the College is attempting to produce in higher Naval education is officers who understand that they must combine the techniques of the physical sciences with which they are familiar and comfortable, with the inexactness and approximation of the social sciences.

Finally, the last part of the curriculum at the War College is titled Tactics. It is hardware-oriented application of Resource Management. With the diminished size of the military establishment, the Navy must be able to get the very most from every unit. It must employ its forces tactically in the best way possible.

Here, in Tactics, the methodology of the scientific approach is very much in evidence. After all, in any tactical interaction,

there are mathematical estimations that can be made. A radar has a certain range, a certain probability of detection and certain errors that can be anticipated. Theoretically, probabalistic solutions can be worked out to show with precision what to expect under certain circumstances.

There is one major difficulty; often no one really knows what numbers to put in the analysis mathematical equations. The weather cannot always be forecast for one day to say nothing of years ahead. If it could, no one is sure, when the weather is bad, what effect this has on the radar. Is the radarman going to be inattentive, because he did not get enough sleep, or is he going to be highly motivated because he recognized the importance of his small task? Officers must be willing and able to make their own estimates on how well a radarman is going to perform, then combine that with an exact calculation of the characteristics, frequencies, ranges and other details of the radar.

The tactics part of this course is very systematic. It ends up with probabilities, rather than specifics. There is a probability that under circumstance A a force will do well. There is a probability that under circumstance B it will perform poorly. The tactical commander must do the calculations,

using intuition, guesses or whatever to fill in the missing numbers. Somehow, he must decide how he is going to play his forces in any given situation. The lives of his men and more hang in the balance.

If the students can be taught to be systematic and logical in their approach, their estimates will be more than intutive guesses. They must understand that even if tactical choices cannot be calculated precisely, it is a big help to identify choices explicitly and to know what estimates and guesses must be made.

There is a major difference between the Naval War College course of Strategy, Management, and Tactics and graduate studies at civilian institutions of of higher learning. Most graduate programs specifically concentrate on a very narrow area and encourage graduate specialization of students with broad backgrounds. The officer students come to the War College ten to twenty years after their broad undergraduate study, years spent in specialization in very narrow fields. The College must broaden their horizons for the demanding jobs awaiting them as senior officers.

This process of developing leaders who can deal with the uncertainties of Strategy, with the combination of precise

analysis and judgment in Management and with the probabilities of Tactics reflects the need for more emphasis on mid-career education in our new Navy. There has been, of course, a marked increase in mid-career executive development programs since World War II. The Harvard Business School was one of the first to move into this field in 1943. Today over 50 universities conduct full time executive development programs. A number of large corporations such as General Electric and Motorola have their own in-house programs; so do the American Management Association, the International Marketing Institute and the International Bank for Reconstruction and Development. The Navy's program though, has placed emphasis on two particular directions that are significantly different.

First, it is setting truly demanding academic standards and making the student officer measure up. The course is academically equivalent in intensity to the master's degree programs at many civilian universities. The students are required to write comprehensive reports; they are tested with written examinations. The College is breaking away from the comfortable tradition that business/military executives at age 40 or thereabouts, are above this sort of thing and should not be subjected to the embarrassment of public competition.

The stakes in warfare are too high to be that gentlemanly any longer.

At the same time, there are risks in this new approach; mid-career student officers are fiercely competitive. Too much emphasis on measuring their performance could pervert their efforts from learning toward winning the game itself. There is also, frankly, a risk of breaking the spirit of some who cannot attain academic grades. That might be viewed as Darwinian in civilian life, in the military care must be taken that the system does not by-pass a man of exceptional leadership and fighting qualities, such as a "Bull" Halsey, even if he were not a star in the classroom.

The College's second point of emphasis is on deliberately attempting to reshape the reasoning habits of its student officers. Briefings on contemporary information or updating student's factual data banks is deliberately ignored. The student is inevitably exposed to some new knowledge, but only as necessary for reasoning. Reshaping habits of thinking at age 41 -- average age in the senior course -- is not easy. It is not even a cinch at the average age of 33 in the junior program.

Internally, there are debates whether empasis should be on the younger group or older. It may be more difficult to

get this new approach to take with the over-40's, but if the College concentrates on the more malleable men in their 30's, it may not select the right ones, that is, the ones who will rise by their 40's and 50's to positions that truly require this enlarged mental outlook.

More than all this, the whole idea is risky business. Some men may simply lose their bearings in a new world of uncertainty and inexactness. They may be deprived of their confidence that there are any right answers without developing a competence to cope with uncertainty.

Why is the Navy accepting all these risks in demanding high academic performance and in attempting to restructure thought processes? In part because it is proud to have been in this mid-career education business at Newport since 1884, 60 years before it began to catch fire in the business world. The school is willing to experiment and to see whether new approaches and emphasis are appropriate to changing times. In the world of the military of the next generation there will be heavy demands for higher intellectual standards and for greater competitiveness. The gentlemanly fraternal spirit is waning.

Why? First, because those in uniform simply must be able to present their case in a more convincing manner to a more sophisticated audience. The services are under closer scrutiny today than perhaps ever before. If they do not or can not make their case well, cynical criticism from a lack of understanding could possibly lead this country into a repetition of its rejection of military preparedness as was done in the 20's and 30's. Lack of preparedness today could have more serious consequences than it did then. The nation's position and responsibilities in today's world are vastly different. With intercontinental nuclear weapons abroad in the world, the consequences of unpreparedness in that sphere are obvious. They spill over into the other military missions.

Moreover, the peacetime balance of military forces has greater impact on world events today than in days past. Modern weapons present an image of swift intercontinental conflagration. Other nations look to what the U.S. could do for them today, not just its capabilites after a long period of mobilization in the two World Wars.

Although it places an increased burden on the services, those in military uniform should be pleased at the increased attention and interest from today's public. It is forcing

the military into the hard thinking which will enable them to answer their critics in comprehensible terms. It is forcing them to define explicitly what is needed in order to achieve whatever the nation sets as goals for deterrence through preparedness. It is forcing today's military managers not to ask for two airplanes or two ships or two tanks when one would suffice, lest in a loss of credibility they are granted none. This scrutiny is one of the factors that is forcing the Navy to develop officers who are articulate and rational thinkers, men who will think through their broad military purposes clearly, rather than merely rely on cliches; who will prepare to deter the next war rather than the last; and who will ask only for hardware that is needed, not that which technology can now produce.

The size and shape of military forces in the 1970's should not be determined by military men. It is rightly the domain through Congress, to determine. But, there is great responsibility on military leaders today to present the military picture lucidly, lest society make a decision based on only one side of the equation. This is why that the services must be more demanding in cultivating the intellectual capacity of the military leaders of tomorrow.